

### REMARKS

Applicants thank the Examiner for total consideration given the present application. Claims 1-7 are currently pending of which claims 1 and 7 are independent. Applicants appreciate that the previous arguments regarding the 35 U.S.C. § 112, second paragraph rejection filed on December 11, 2006 were found persuasive. However, claims 1, 6, and 7 now stand rejected under a new ground(s) of rejection. Applicants respectfully request reconsideration of the rejected claims in light of the remarks presented herein, and earnestly seek timely allowance of all pending claims.

### ALLOWABLE SUBJECT MATTER

Applicants appreciate that claims 2-5 are indicated to define allowable subject matter.

### 35 U.S.C. § 102 REJECTION - Ekelman

Claims 1, 6, and 7 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Ekelman et al. (USPN 4,504,805) ("Ekelman"). Applicants respectfully traverse this rejection.

For a Section 102 rejection to be proper, the cited reference must teach or suggest each and every claimed element. *See M.P.E.P. 2131; M.P.E.P. 706.02.* Thus, if the cited reference fails to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

In this instance, Ekelman fails to teach or suggest each and every claimed element. For example, independent claims 1 and 7 recite, *inter alia*, structures (claim 1) or steps (claim 7) for *combining the first and second electric waves of the horizontally polarized electric wave and dividing the combined electric wave into a first basis mode electric wave and a first higher mode electric wave*, and outputting them and *combining the first and second electric waves of the vertically polarized electric wave and dividing the combined electric wave into a first basis mode electric wave and a first higher mode electric wave*, and outputting them. *Emphasis added.*

Ekelman is not directed to a waveguide orthomode transducer that includes the above-identified claim features. Ekelman is merely directed to a conventional microwave combining networks for simultaneously transmitting and/or receiving two or more different microwave

signals. Ekelman is particularly directed to a combiner to transmit and receive co-polarized microwave signals in a selected propagation mode in at least two different frequency bands (col. 1, lines 5-16). In order to achieve this objective, Ekelman requires a four-port combiner having a main waveguide 10 with an open end 11 through which signals are transmitted to and from four junctions A, B, C, and D that are spaced along the length thereof for transmitting and receiving two pairs of co-polarized signals in two different frequency bands. Ekelman discloses that the junctions A and C are longitudinally aligned with each other for receiving one pair of co-polar signals. Junctions B and D are also longitudinally aligned with each other for receiving the other pair of co-polar signals. Junctions A and B are high frequency junctions whereas junctions C and D are low frequency junctions. (See col. 4, lines 19-49.) Further, Ekelman discloses two hybrid tee waveguide connectors 24, 34 to provide isolation between an in-phase port and an out-of-phase port of junctions A and B respectively. (See col. 5, lines 3 and 38.)

Ekelman is distinguished from the claimed invention in that neither of junctions A, B, C, and D includes a first combiners to combine *a first and second electric waves of a horizontally polarized electric wave* and a second combiner to combine *a first and second electric waves of a vertically polarized electric wave*. The Examiner alleges that the hybrid tee connectors 24 and 34 disclose such features. As demonstrated above, the hybrid tee connectors 24 and 34 merely isolate the in-phase port and the out-of-phase port of junctions A and B respectively. There is no disclosure in Ekelman that the hybrid tee connectors 24 and 34 combines a first and second electric waves of a horizontally and a vertically polarized electric waves as recited in independent claims 1 and 7.

Further, the Examiner contends that the above-mentioned hybrid tee connectors (24, 34) also divide *the combined first and second horizontally and vertically polarized electric waves into a first and second basis mode electric waves (TE11) and a first and second higher mode electric waves (TE21)* and outputting them. In support of her contention, the Examiner merely points to col. 4, line 19 – col. 8, line 44 of Ekelman as disclosing such features. Applicants respectfully submit that the neither the cited portion nor any other portion of Ekelman teaches such features. Ekelman discloses that TE11 and TE21-mode signals are used merely to correct antenna mis-alignment (see col. 8, lines 14 and 40-42). This kind of antenna alignment

technique has nothing to do with dividing *combined first and second horizontally and vertically polarized electric waves into a first and second basis mode electric waves and a first and second higher mode electric waves* and outputting them as claimed in claims 1 and 7.

Therefore, for at least these reasons, independent claims 1 and 7 are distinguishable from Ekelman. Claim 6 depends from claim 1. Therefore, for at least the reasons stated with respect to claim 1 and further in view of the novel feature recited therein, claim 6 is also distinguishable from Ekelman.

Accordingly, Applicants respectfully request that the rejection of claims 1, 6, and 7, based on Ekelman, be withdrawn.


### CONCLUSION

All rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Ali Imam (Reg. No. 58,755), to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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